App. No.: 10/620,949 Inventor: Jordan et al. Examiner: Ing Hour Lin

Amendment(s) to the Claims

The following listing of claims replaces all prior versions and listings of

claims in the present application:

Listing of Claims:

Claim 1 (currently amended): A spraying system for applying one or more

materials to an open mold while said mold resides within a molding machine,

said spraying system comprising:

a spray head for directing said one or more materials onto portions

of said mold;

a manipulator connected to said spray head, and adapted to

position said spray head between halves of said open mold between

molding cycles of said molding machine;

a source supply of said one or more materials in communication

with said spray head a first pressure source;

a conduit connecting said supply of one or more materials to said

spray head;

a pressure boosting device positioned along said conduit between

each source supply of said one or more materials and said spray head,

said pressure boosting device in communication with a second pressure

source and adapted to increase the pressure of the material passing

therethrough through said conduit; and

a control device in electronic communication with said manipulator

and each pressure boosting device for controlling the operation thereof.

App. No.: 10/620,949 Inventor: Jordan et al.

Examiner: Ing Hour Lin

Claim 2 (original): The spraying system of claim 1, wherein said mold is a

die-cast mold.

Claim 3 (original): The spraying system of claim 1, wherein said materials are

selected from the group consisting of an anti-solder material and a die-lubricant.

Claim 4 (original): The spraying system of claim 1, wherein said pressure

boosting device increases the pressure of said one or more materials by passing

each material through a separate chamber, wherein said material is acted upon

by a force-exerting cylinder.

Claim 5 (original): The spraying system of claim 4, further comprising a speed

control device for controlling the speed of the force-exerting cylinder.

Claim 6 (original): The spraying system of claim 4, further comprising an

electronic solenoid valve connected to each force-exerting cylinder and in

electronic communication with said control device, said solenoid valve for

controlling the movement of the corresponding force-exerting cylinder in

response to a signal from said control device.

Claim 7 (original): The spraying system of claim 1, wherein the operation of said

pressure boosting device and said spray head is sequenced such that a

pressurized supply of said one or more materials from said pressure boosting

device is always available when needed for emission by said spray head.

Claim 8 (original): The spraying system of claim 1, further comprising a solenoid

valve in electronic communication with said control device and located between

each source of said one or more materials and said spray head, each solenoid

valve for controlling the emission of a respective material from said spray head.

Claim 9 (original): The spraying system of claim 1, further comprising an

apparatus for providing linear movement of said manipulator substantially along

the longitudinal axis of said molding machine.

Claim 10 (original): The spraying system of claim 1, wherein said control device

is in electronic communication with said molding machine, such that said control

device controls the operation of said pressure boosting device and the spraying

of said one or more materials onto portions of said mold by said spray head to

coincide with a particular segment of the molding machine cycle.

Claim 11 (original): The spraying system of claim 1, wherein said control device

is a programmable logic controller.

Claim 12 (original): The spraying system of claim 1, wherein said pressure

boosting device supplies said one or more materials to said spray head at a

substantially constant pressure.

Claim 13 (currently amended): A pressure boosting apparatus for use in a die

mold spraying system, said pressure boosting apparatus comprising:

a chamber for receiving adapted to allow for passage therethrough

of a sprayable material from a pressurized material source, said chamber

located between said pressurized material source and an emitter of said

material;

a force-exerting cylinder coupled to said chamber and in

communication with a separate pressure source, said force exerting

cylinder for exerting a force on said material residing therein passing

therethrough;

Response to Office Action of: 04/22/2004

Response Dated: 07/15/2004

Title: Mold Spraying System

App. No.: 10/620,949 Inventor: Jordan et al.

Examiner: Ing Hour Lin

a conduit connecting said pressurized material source to said

chamber emitter, said conduit conveying said sprayable material through

said chamber on its way to said emitter; and

a conduit connecting said chamber to said emitter of said material;

and

a controller for sequencing the operation of said force-exerting

cylinder; such that a sufficient amount of said sprayable material at an

increased pressure is supplied to said emitter from said chamber as

needed.

wherein said force exerting cylinder increases the pressure of said

sprayable material passing through said chamber as necessary to ensure

that a sufficient amount of said sprayable material at substantially some

predetermined pressure is supplied to said emitter for application to said

mold.

Claim 14 (original): The pressure boosting apparatus of claim 13, further

comprising a speed control device for regulating the speed of said force-exerting

cylinder.

Claim 15 (original): The pressure boosting apparatus of claim 13, further

comprising a solenoid valve for controlling the operation of said force-exerting

cylinder.

Claim 16 (original): The pressure boosting apparatus of claim 15, wherein said

solenoid valve is controlled by said control device.

Response to Office Action of: 04/22/2004

Response Dated: 07/15/2004 Title: Mold Spraying System App. No.: 10/620,949 Inventor: Jordan et al. Examiner: Ing Hour Lin

Claim 17 (original): The pressure boosting apparatus of claim 13, further

comprising at least one check valve for preventing the transport of pressurized

material from said chamber toward said material source.

Claim 18 (original): The pressure boosting apparatus of claim 13, wherein said

sprayable material is supplied to said emitter from said chamber at a

substantially constant pressure.